



N A T I O N A L
E S T U A R I N E
R E S E A R C H
R E S E R V E
S Y S T E M

2007

**Education Program
NEWSLETTER**

Table of Contents
EDUCATION PROGRAM
Newsletter - October 2007
National Estuarine Research Reserve System

ACE BASIN NATIONAL ESTUARINE RESEARCH RESERVE	
2007 EDUCATION PROGRAM REPORT.....	1
APALACHICOLA NATIONAL ESTUARINE RESEARCH RESERVE	
2007 EDUCATION PROGRAM REPORT.....	2
CHESAPEAKE BAY NATIONAL ESTUARINE RESEARCH RESERVE IN MARYLAND	
2007 EDUCATION PROGRAM REPORT.....	3
CHESAPEAKE BAY NATIONAL ESTUARINE RESEARCH RESERVE IN VIRGINIA	
2007 EDUCATION PROGRAM REPORT.....	4
DELAWARE NATIONAL ESTUARINE RESEARCH RESERVE	
2007 EDUCATION PROGRAM REPORT.....	6
ELKHORN SLOUGH NATIONAL ESTUARINE RESEARCH RESERVE	
2007 EDUCATION PROGRAM REPORT.....	7
GRAND BAY NATIONAL ESTUARINE RESEARCH RESERVE	
2007 EDUCATION PROGRAM REPORT.....	8
GREAT BAY NATIONAL ESTUARINE RESEARCH RESERVE	
2007 EDUCATION PROGRAM REPORT.....	10
GUANA TOLOMATO MATANZAS NATIONAL ESTUARINE RESEARCH RESERVE	
2007 EDUCATION PROGRAM REPORT.....	11
HUDSON RIVER NATIONAL ESTUARINE RESEARCH RESERVE	
2007 EDUCATION PROGRAM REPORT.....	13
JACQUES COUSTEAU NATIONAL ESTUARINE RESEARCH RESERVE	
2007 EDUCATION PROGRAM REPORT.....	14
JOBOS BAY NATIONAL ESTUARINE RESEARCH RESERVE	
2007 EDUCATION PROGRAM REPORT.....	15
KACHEMAK NATIONAL ESTUARINE RESEARCH RESERVE	
2007 EDUCATION PROGRAM REPORT.....	17
MISSION-ARANSAS NATIONAL ESTUARINE RESEARCH RESERVE	
2007 EDUCATION PROGRAM REPORT.....	18
NARRAGANSETT BAY NATIONAL ESTUARINE RESEARCH RESERVE	
2007 EDUCATION PROGRAM REPORT.....	19
NORTH CAROLINA NATIONAL ESTUARINE RESEARCH RESERVE	
2007 EDUCATION PROGRAM REPORT.....	20

NORTH INLET-WINYAH BAY NATIONAL ESTUARINE RESEARCH RESERVE	
2007 EDUCATION PROGRAM REPORT.....	21
OLD WOMAN CREEK NATIONAL ESTUARINE RESEARCH RESERVE	
2007 EDUCATION PROGRAM REPORT.....	22
PADILLA BAY NATIONAL ESTUARINE RESEARCH RESERVE	
2007 EDUCATION PROGRAM REPORT.....	23
ROOKERY BAY NATIONAL ESTUARINE RESEARCH RESERVE	
2007 EDUCATION PROGRAM REPORT.....	24
SAN FRANCISCO BAY NATIONAL ESTUARINE RESEARCH RESERVE	
2007 EDUCATION PROGRAM REPORT.....	26
SAPELO ISLAND NATIONAL ESTUARINE RESEARCH RESERVE	
2007 EDUCATION PROGRAM REPORT.....	27
SOUTH SLOUGH NATIONAL ESTUARINE RESEARCH RESERVE	
2007 EDUCATION PROGRAM REPORT.....	28
TIJUANA RIVER NATIONAL ESTUARINE RESEARCH RESERVE	
2007 EDUCATION PROGRAM REPORT.....	29
WAQUOIT BAY NATIONAL ESTUARINE RESEARCH RESERVE	
2007 EDUCATION PROGRAM REPORT.....	30
WEEKS BAY NATIONAL ESTUARINE RESEARCH RESERVE	
2007 EDUCATION PROGRAM REPORT	32
WELLS NATIONAL ESTUARINE RESEARCH RESERVE	
2007 EDUCATION PROGRAM REPORT	33
ESTUARINE RESERVES DIVISION	
2007 EDUCATION PROGRAM REPORT.....	34

ACE Basin National Estuarine Research Reserve

2007 Education Program Report

Louis D. Heyward, Sr., Education Coordinator – Heywardl@dnr.sc.gov

Program Highlights

- **Workshops**

The Education staff at the ACE Basin Reserve has been extremely busy during the past year, and especially since the first part of the summer. This includes a number of workshops which were either planned or co-hosted by the ACE Education Sector. A successful 3 day teacher workshop was held in which teachers from the coastal counties in the state spent 3 days and two nights partaking in such sessions as water quality, squid and shark dissections, phytoplankton identification, and plant identification.

Teachers also enjoyed a night hike in which they took in the night sounds of the ACE Basin, a boat cruise and trawl demonstration, a history tour of the ACE Basin and a kayak trip down the Asheepoo River. Teachers were required to write lesson plans during this workshop, and as a result, approximately twenty lesson plans on the ACE Basin were written.

Other workshops during the last few months have included a saltwater aquarium workshop (how to set up and maintain a salt water aquarium), a logger head sea turtle lecture series and two barrier islands workshops.

- **Education Programs**

Over the summer, ACE Education staff hosted numerous summer camp participants from various camps in the Lowcountry.

Education staff recently completed upgrades and additions to exhibits at the ACE Basin's Edisto Interpretive Center. Education staff also relished the completion and opening of their outdoor classroom at the Michael D. McKenzie Field station at Bennett's Point. This 1600 square foot building equipped with double sided fireplace, a fire pit, and industrial appliances vastly enhances the teaching facilities at the center.

Most recently, staff co-hosted a successful EstuaryLive! webcast. This ELive event was held in conjunction with the North Inlet-Winyah Bay and North Carolina Reserves and was supported by funds from NOAA in the Carolinas and was produced on the grounds of the South Carolina Department of Natural Resources – the partnering agency of the ACE Basin Reserve. This ELive event boasted record numbers of registrants, viewers, hits, and questions submitted.

Apalachicola National Estuarine Research Reserve

2007 Education Program Report

Erik Lovestrand, Education Coordinator – Erik.Lovestrand@dep.state.fl.us

- **Group Programs**

During this year education staff conducted programs with 109 scheduled groups. A total of 2,343 students of various ages were able to learn about the unique resources of the Reserve. These programs took place on the land, on the water and at the Reserve nature center.

- **Education Library**

Education staff maintains a checkout library with materials that are available to educators and the public.

- **Guest Lectures**

Over this last year there were five lectures hosted for the public. Topics included shark awareness and astronomy. These lectures provide educational opportunities to a diverse audience from the local community.

- **Cleanups**

Several litter removal projects were conducted this year on Reserve lands or waters including a project coordinated by Research to remove derelict crab traps from the Bay. This project involved Reserve staff & volunteers.

- **Festivals and Events**

During this year Reserve staff participated in the Oyster Spat Festival, Antique Boat Show, the Florida Seafood Festival, the Panhandle Birding and Wildflower Festival, Oceans Day at the Capitol, the Wakulla Wildlife Festival, Open House at the FSU Coastal Marine Lab and Estuaries Day at the Reserve. The Estuaries Day event at the Reserve's nature center attracted nearly 400 people alone.

- **School Activities**

Several Reserve staff participated in judging at local science fair events. Staff was also involved in the annual Invention Convention at a local school. The Reserve is moving into its fourth year for the LIFE (Learning in Florida's Environment) Program. This hands-on, outdoor science program gets the entire 7th grade into the field four different times during the school year. Last year, approximately 75 kids collected data and learned about wetlands, soils, barrier islands, beaches, pine flatwoods, estuaries and assorted other cool topics. Pre and post-visit activities have also been developed for the classroom.

- **Master Naturalist Programs**

Education staff participated in teaching several segments in courses offered by the Florida Master Naturalist Program. The Reserve has served as a host for the program which consists of a 40 hour program that teaches about a variety of topics related to Florida ecosystems.

- **Publications**

Work was completed on a Kid's Activity Booklet about seasons of the Apalachicola Ecosystem. Booklets have been distributed to Franklin County 5th grade classrooms. Three issues of the Reserve's newsletter were printed.

- **Visitor Center Development**

Additional funding was acquired to move the Reserve forward in the development of its new center in Eastpoint.

- **Fort Gadsden Documentary**

Education staff supplied boat access for a film crew conducting a documentary on this historic fort site on the Apalachicola River.

Outcomes Summary

During this past year over 13,000 people visited the Reserve facilities or participated in educational programming provided by Reserve staff. Additionally, the Reserve's newsletter reached a mailing list of nearly 800 people.

Chesapeake Bay National Estuarine Research Reserve in Maryland

Chesapeake Bay National Estuarine Research Reserve in Maryland

Bart Merrick, Education Coordinator- bmerrick@dnr.state.md.us

Program Highlights

- **New Education Coordinator**

Bart Merrick started as the Education coordinator for CBNERR-MD in October of 2006. Prior to accepting this position he worked for the Chesapeake Bay Foundation as a Captain and Program Manager where he developed and implemented professional development programs for teachers and Chesapeake Bay focused educational programming for students and the public.

- **Education Programs**

In addition to numerous field based programs at the Maryland Reserve components, CBNERR-MD has continued to work with its State partners to bring Somerset County students Wetlands and Wildlife field day. This program introduces local students to unique and abundant natural resources in their own backyards and how our actions impact those resources.

- **Teacher Professional Development**

This year CBNERR-MD operated a multi-day professional development course for Maryland teachers that provided them with a solid background on Chesapeake Bay and estuarine issues, resources for monitoring the Bay, and methods for evaluating and reducing environmental impacts resulting from school grounds.

- **Maryland Green Schools Program**

CBNERR-MD helped to support the Maryland Green Schools Awards Program. The Maryland Green School Awards Program is a holistic, integrated approach to authentic learning that incorporates local environmental issue investigation and professional development with environmental best management practices and community stewardship.

- **Special Events**

This year CBNERR-MD had the opportunity to work with partner organizations and host the 2007 NOAA Restoration Day. This event was a huge success, resulting in the planting of wild rice, assessment of wetland vegetation, removal of invasive species, and many other activities that helped to restore habitat in the Jug Bay component of the Maryland Reserve.

CBNERR-MD worked with the NOAA Chesapeake Bay Office and other partners to provide an opportunity for congressional staffers to visit Jug Bay and develop an understanding of how development pressure impacts estuaries and their tributaries.

Outcomes Summary

The Chesapeake Bay region has many opportunities for teachers, students and the public to learn about the Bay and its issues through experiences in the field. CBNERR-MD is well positioned to support these experiences through targeted issue-based investigations and programming and fill in the gaps especially in regards to data-driven estuarine investigations.

Chesapeake Bay National Estuarine Research Reserve in Virginia

2007 Education Program Report

Sarah McGuire, Education Coordinator – McGuire@vims.edu

Program Highlights

- **Staff Updates**

Jes Russo joined the CBNERRVA Education Department as the new Middle School Marine Education Specialist heading up the 3rd year of the B-WET 7th grade program linking field trips with the classroom.

- **Teacher Training**

Teacher training workshops at the Reserve included:

Water Quality: One, 2-day workshop – 3rd year offering this workshop and *York River Water Quality Curriculum* has now been distributed to over 65 educators.

Chesapeake Studies: Estuaries in the Classroom. One, 2-day workshop

Teacher Collection Days: One fall and one spring date offered for teachers to collect fauna for classroom aquariums.

Extended Programs

- **Oysters: One 5-day residential course**

High school students from around Virginia attended the 17th Annual Chesapeake Bay Conference with the 2007 theme “The Chesapeake Oyster and Its Habitat in the Bay”.

- **NOAA and NERRS Explore the Chesapeake Bay: One 5-day summer program**

Twenty elementary and middle school students from the local area applied with NOAA through teacher recommendations to attend program to explore the Chesapeake Bay.

- **Estuaries Explorers Adventure Week: one, 5-day summer program**

Twenty-five elementary and middle school students from the local area attended program for a week long investigation of estuaries and marine science.

Student Field Programs

- **Oyster Restoration**

Five oyster release field trips for classes that raised oysters and monitored their growth, survival and water quality during the school year. Through our restoration field trips and middle school projects, we released approximately 15,000 1-year oysters.

- **Middle School Marine Science Project**

The project “Chesapeake Studies: Linking Field Trips with the Classroom” began with the school year 2005/06 and is currently underway for its third year. The objective is to provide every 7th grade student in Gloucester and Mathews County with a meaningful Chesapeake Bay field experience that is deeply integrated into the classroom. Oyster restoration, summer flounder growth studies, and blue crab habitat studies were the major pathways. This project has already reached 1300 students over the first two years and is expected to reach an additional 650 this school year. Classroom visits totaled 19 for the 2006/2007 school year and field trips totaled 22 days.

Public Education

- **Marine Science Day**

CBNERR participated in this VIMS event, hosting a seining station and an oyster discovery lab which included a touch tank, microscope investigation of oyster larvae, oyster dissection, and timeline of oyster productivity in the bay. Approximately 1800 people were on VIMS campus for the event.

- **Estuaries Day**

The CBNERR partnered with York River State Park to host Estuaries Day at one of CBNERR's reserve sites, Taskinas Creek, located at the State Park. The CBNERR hosted the Marsh March station, aquarium displays of different Chesapeake Bay habitats and species, kids' activities, and the seining station. CBNERR and education staff at the park have been planning Estuaries Day 2007 and has expanded the event from last year to take place on Sept 22, 2007.

- **Discovery Lab Series**

New public program; family friendly open house labs with activities for all ages, current research, and a speaker. Topics so far: Oysters, Blue Crabs, SAV, and Fish of the York River.

Tour of the Reserves: Public canoe trip program; 3 dates offered this summer to Taskinas Creek, Goodwin Island, and Catlett Island.

Outcomes Summary

The Chesapeake Bay NERRS education program focuses on teacher training, extended student programs during the summer, a classroom and field project with middle school students, and hands-on public education. While a majority of our focus is on our middle school project, efforts are underway to expand our program in the elementary and high school groups by adopting a local elementary school to provide field trips throughout the year and also the creation of a high school Bay Club which will meet monthly with education staff. We also are putting forth effort to increase NERRS visibility within the community with more public outreach, especially with our Discovery Labs and Estuaries Day event.

Delaware National Estuarine Research Reserve

2007 Education Program Report

Jennifer Holmes, Education Coordinator – Jennifer.Holmes@state.de.us

Professional Teacher Development

- **Green Eggs & Sand: The Horseshoe Crab/Shorebird Education Project**

This was the seventh year of this project. Training workshops were held in Delaware and Georgia (partnered with Sapelo Island NERR and University of GA) with a total of 83 participants from 16 states and Japan.

- **Project WET (water education for teachers)**

As Delaware's Project WET Coordinator, Jennifer Holmes held A workshop for non-formal educators in March 2007. The Make a Splash water festival is scheduled for September 28, 2007 and will focus on the St. Jones Watershed. This festival will be hosted at the Reserve and will incorporate a National Estuaries Day celebration.

Public and Community Education

- **Becoming an Outdoors Woman**

The DNERR partnered with the Delaware Division of Fish & Wildlife for the Annual Becoming an Outdoors Woman program. Holmes serves on the BOW steering committee and lead a tree ID course. About 95 women attended the 2007 event which provides women the opportunity to participate in various outdoor activities.

- **Community education/public programming**

There was a slight increase in attendance at public programming this year (17 programs, 126 total participants). We also had an increased presence in local newspapers which published our activities and wrote articles about our programs. Four of the seventeen programs were offered at our Blackbird Creek Reserve component.

- **Family Fall Festival**

The DNERR partnered with the John Dickinson Plantation for a Family Fall Festival in October 2006. Approximately 3,000 people attended the event. A portion of the festival was held on DNERR property and the DNERR hosted the 5K event associated with the festival.

- **The Preschool Naturalist**

This program was offered at the DNERR, in local public libraries and extended into Delaware pre-schools facilities and local kindergarten classes. The program included a reading session, an encounter with a creature, and a craft and/or a sing-along. Approximately 1000 children (ages 3-6) attended these popular programs.

Formal Education/K-16 Education

- **Canon ENVIROTHON**

DNERR educators serve on the planning committee for the Canon ENVIROTHON in Delaware, North America's largest environmental education competition. DNERR hosted two trainings with a total of 150 participants. This year the Delaware team placed third in the North America competition.

- **School outreach and field trips**

Classroom outreach presentations logged approximately 1,500 contact hours for groups ranging from pre-school to graduate school. The St. Jones Reserve component hosted many school field trips ranging from preschool to graduate school. Approximately 1,717 contact hours were logged for field trips. Unfortunately, more schools are having difficulty in Delaware with field trips.

- **Staffing**

Jennifer Holmes was hired in October 2006 as the Education Coordinator. Katy O'Connell, the previous EC, is now the Reserve Manager.

Elkhorn Slough National Estuarine Research Reserve

2007 Education Program Report

Kenton R. Parker, Education Coordinator – Krparker@elkhornslough.org

Program Highlights

As a first step in the strategic planning process for our education program the Reserve education staff started an in-depth evaluation of the volunteer program with the goal of improving volunteer support of all the Reserve programs as we seek to reach the conservation goals defined in our new management plan. Our **82 active volunteers** put in **6,860 hours** in support of the Reserve this year. Volunteers lead interpretive walks, staff the visitor center, help with restoration, native plant landscaping, trail and building maintenance, and assist with a variety of terrestrial and aquatic research and monitoring projects.

We put on an exciting new teacher institute in collaboration with the California Institute for Biodiversity and California State Parks. This was an 8 day workshop spread over three weekends in September and October, 2006 entitled: *Coast Alive! Monterey: Land-Sea Interface*. This year we served a total of **312 teachers** through teacher workshops and direct consultations with teachers planning field tours at our site.

The Reserve served **250 school groups** through our school tour program reaching over **5,680 students**, teachers and parent chaperones who benefited from this outdoor experience.

Continued collaboration with California State Parks and the Monterey Bay National Marine Sanctuary (MBNMS) on the MERITO program, (Multicultural Education on Resource Issues Threatening the Oceans), that is being supported by the MBNMS Foundation and a Bay Watershed Education and Training grant, (B-WET, a program with the National Ocean Service), to provide educational outreach into the Latino community.

Worked with **32 different instructors from local colleges and universities** giving special tours and presentations to **640 students** as part of courses on coastal ecology, wetland habitats, environmental education, interpretive exhibit design, and resource management as it pertains to coastal resources.

Provided **225 docent led tours** of the Reserve to **1,770 people** who participated in regularly-scheduled weekend hikes or who arranged for specially-scheduled guided tours. We had a total Reserve visitation of over **35,000**.

Outcome Summary

The evaluations of teacher trainings and school programs are overwhelmingly positive, however, we would like to develop a more thorough evaluation tool for these programs. As part of our strategic planning process for the volunteer program we hired an organizational development consultant who has facilitated a collaborative team building process for staff and volunteers. This has been so successful we are now exploring ways to apply this approach to the overall workplace culture as we seek to improve program collaboration and integration. Meanwhile, construction was just completed on a new research and education facility that we hope will provide the infrastructure for these collaborations.

Grand Bay National Estuarine Research Reserve

2007 Education Program Report

Jennifer Buchanan, Education Coordinator – Jen.Buchanan@dmr.ms.gov

Program Highlights

Last of October 2006

- Exploring New Horizons(Science for Girls)—hosted a session
- Hosted Pearl River Community College Botany Class

November 2006

- Invasive Species Workshop
- Al-MS Sound Symposium
- Continued mentoring of Beauvoir Elementary School for a year of Wetlands-themed projects

December 2006

- Participated in a Cultural Charrette for the coast
- Sierra Club Boat Tour
- Began working on Community Ed Survey
- Restore America's Estuaries

January 2007

- Working with Gulf of Mexico Alliance Under-represented and Underserved Committee
- Midway United Methodist Church presentation
- Local Science Fairs

February 2007

- Mardi Gras Parade float for Beauvoir Elementary School
- Regional Science Fair coordination—*Excellence in Marine Science* Award

March 2007

- Sponsored Leave No Trace-Train the trainer course for local educators
- Co-organized *Celebrate the Gulf Marine Education Festival*

April 2007

- Planning Renew our River Cleanup
- Earth Day in Gulf Islands National Seashore Park
- Ed Meeting in Homer!
- *Wild Wing River and Nature Festival*

May 2007

- Designed and completed reserve's new popup exhibits
- Co-sponsored a Coastal Basin Streams field trip up a local river
- Field Trip for St. John High School
- Comprehensive Resource Management Plan conference exhibit
- *Firewise* workshop for public
- Tour of Reserve for Sierra Club

June 2007

- Turkey Creek Wetlands Walk for CreekKeepers
- *Renew or Rivers* Community Cleanup of Pascagoula River
- Gulf of Mexico Alliance Educator's Meeting
- GCOOS Education Subcommittee meeting
- Americorps cleanup and tour of the reserve
- Three-part Grant Writing Workshop Series begins

July 2007

- GIS Camp for High School Students
- Working on new bird field guide
- Partnering with University of Southern MS to design new "My Coast" – A series of evening conversations and explorations on coastal topics

August 2007

- Grant Writing Series ends
- Attended Greenprint workshop
- Adventure Quencher program re-established "Blacklighting for Bugs"

September 2007

- Mississippi Coastal Cleanup—Paddlers' Cleanup in Reserve
- Marine Mammal Stranding Network Meeting
- Partnering with Weeks Bay NERR to re-produce and enlarge plant field guide
- EstuaryLive mentoring
- National Estuaries Day Adventure Quencher event "Paint en plein air"

During the period highlighted, our PreK12 Specialist works at the JL Scott Marine Ed Center in Ocean Springs and goes On the Road, directs Mini-camps and is a counselor at Sea Camp. He taught thousands (4262 thousand) of children about estuaries during this period.

Great Bay National Estuarine Research Reserve

2007 Education Program Report

Kelle MacKenzie, Education Coordinator – Kelle@greatbay.org

Program Highlights

- Great Bay's Education programs have continued to grow steadily over the last year, with close to 5,000 students attending three-hour programs each day for approximately four months. Our volunteer community continues to play a large role in the success of our K-12 programs, with over 1600 hours of volunteer time contributed for just these programs alone. In fact, we recently determined that the Reserve has put 30,000 students through our K-12 programs since 1997 to total 90,000 contact hours during this time.
- Other programs the Reserve offers also have grown over the past year, particularly those that combine Education, Stewardship, CTP and Research. The EC and RC combined to offer an interpretive kayak trip on the Estuary, as well as an SC/EC Habitats of the Reserve trip, using NH native bats as a place to begin a habitat exploration and discussion about the Reserve land acquisition efforts.
- Another effort close to coming to fruition is our "Passport to Great Bay", a publication highlighting a dozen Reserve properties available for the public to access. Education and Stewardship staff combined to develop comprehensive pages of each property addressing both recreational options as well as invasive species background, biological and cultural histories of the region.
- The new Hugh Gregg Coastal Conservation Center has proven to be an effective marketing tool as well as valuable meeting space. A number of new agencies and programs have been introduced to the Reserve because of the availability of the "Barn", with several thousand people coming through.
- More donations have been received than ever before, through former volunteers who have passed away, as well as private groups and citizens more aware of Reserve Programs.
- Our friends group, "The Great Bay Stewards", headed by President, Peter Flynn, was recently awarded the Gulf of Maine's Council Visionary Award and was presented to them in September at our State's Governor and Council meeting. The Stewards continue to be vital to the successful programs of the Reserve.

Outcome Summary

Evaluating the impact of our various audiences is not easy to do in a brief summary, however, through formal evaluations, and anecdotal interpretation, we feel strongly that both the Reserve as a whole, and the Education programs, continue to educate a wide audience in the importance and value of our estuarine system. Increased press coverage, financial contributions and visitation, in addition to formal feedback, are telling us we are making an impact in Coastal NH and beyond.

Guana Tolomato Matanzas National Estuarine Research Reserve

2007 Education Program Report

Janet Zimmerman, Education Coordinator – Janet.Zimmerman@dep.state.fl.us

Program Highlights

With the opening of the Environmental Education Center and additional education staffing (5+ on the Ed Team), the Education program has been able expanded its program offerings greatly. Regularly reoccurring programs include:

- **Weekend Nature Movies:** September's movie was "A String of Pearls – Wisconsin's Estuaries Along Lake Superior"
- **Brown Bag Lunch Lectures:** Lectures given by staff or environmental experts on a wide range of topics from native plants and butterflies, to Guana River's history and species monitoring research.
- **Family Fun Hour:** A nature-based story and craft hour for children ages 3-9.
- **Creature Feature:** Live estuary animal interaction session where the public can learn about the animal, its habitat, food chain, and behaviors.
- **Guided walks, kayak and bike tours:** Tour topics include the diverse ecosystems, wildlife, and historical points of interest located within GTMNERR.

K-12 Programs

Guided fieldtrip programs have been developed for 4th grade, 7th grade (LIFE program) and high school. 4th grade focuses on the estuary food web, 7th grade focuses on estuarine interactions and beach connections, and high school students study water quality. The LIFE Program is a multi-day, field experience stressing observation and inference as critical components of the scientific method; and integrates all subject areas by connecting field experiences with pre- and post- classroom lessons. Other grades are offered a "self-guided" option if they wish to visit the reserve.

2005-2006

1,015 # of school children
258 # of teachers and chaperons
888 # of gen public program attendees
16,073 # of visitors to the Enviro Center

2006-2007

2,694 # of school children
568 # of teachers and chaperons
1,200 # of gen public program attendees
14,993 # of visitors to the Enviro Center

With a doubling of program participants, staff have designed more programs to be volunteer lead and are developing teacher trainings to enable teachers to lead their class through stations while on site.

Volunteer Program

At GTM, the volunteer program is located within the education section. Volunteers assist with every aspect of the reserve's operations; administration, education, research, monitoring, and stewardship. The Education team has worked to develop appropriate orientation and training for the volunteers. This year's trainings included:

- **4th grade field trip program:** To have volunteers understand the main focus of 4th grade program, be able to recognize appropriate words & topics for this grade level. Set up, animal handling practices, safety concerns and facts/information on the animals are covered.
- **Nature Walks & Bird ID:** To have volunteers be comfortable out on the trails, learn facts/ID skills for the most common things spotted, increase general knowledge of habitats in area.

- **Interpretation & Docent Skills:** Empower volunteers to become more effective interpreters. Focus on “why should I care” concept. Care=Connection=Change in behavior and teach interpretation techniques.

Outcomes Summary

The Reserve increased general volunteer knowledge of Reserve property, mission and programs, increased volunteer participation in outreach, increased safety and awareness, and improved guest, staff & volunteer interactions.

Active Volunteers/Hours Served: 2005=128/4,900 hours; 2006=143/10,700 hours; 2007=141/7,686 and counting! That is an average of 50 hours annually per volunteer.

Results from surveys given to teachers and chaperons of fieldtrips indicated 85% of them were first time visitors to the reserve. New surveys are being designed for 07-08 to capture more information.

Hudson River National Estuarine Research Reserve

2007 Education Program Report

Jean Valla McAvoy, Education Coordinator – jvmcavoy@gw.dec.state.ny.us

Program Highlights

This has been a year of transition, with a move to new headquarters at Norrie Point Environmental Center in January, 2007.

- **First priority:** outfitting new offices, classroom and meeting rooms.
- **Second priority:** in-house development, graphic design and fabrication of interpretive exhibits, including Hudson River fish tanks and a wall of life-sized informative fish profiles.
- **Third priority:** development of site-based education programs for target audience of middle school/high school students and their teachers and cultivation of contacts. Education programs were also provided for other audiences: elementary school classes, school administrators, post secondary classes, Hudson River educators.
- **Fourth priority:** development of public programming at Norrie Point, specifically monthly Seining Saturdays.
- **Fifth priority:** development of partnerships for joint education opportunities with new Norrie Point neighbors, such as Mills-Norrie State Park and Atlantic Kayak Company.

Meanwhile, we continued to offer existing programs, primarily guided canoe trips, for the public and groups by appointment, at three Hudson River Estuary tidal marshes; programs at the Tivoli Bays Visitor Center, including the Tivoli Bays Talks lecture series and programs for children such as Live Wednesdays, Saturdays for Children and a component of the Tivoli Summer Recreation Program; and special events, such as Snapshot Day on the Hudson.

Outcome Summary

Education programs primarily targeted the public and student/teacher audiences. These programs highlighted the vitality and diversity of the Hudson River Estuary and its tidal habitats; threats to these habitats, such as invasive species, climate change and land use practices; and the role of research by the Reserve and other organizations in understanding the dynamics of change in the estuary. Our primary goal was to raise awareness of the link between personal habits and lifestyle choices and the integrity of the Hudson River Estuary.

Jacques Cousteau National Estuarine Research Reserve

2007 Education Program Report

Janice McDonnell, Acting Education Coordinator – Mcdonnell@marine.rutgers.edu

Program Highlights

- **MARE 2007**

The 2007 MARE Summer Institute allowed teachers the opportunity to explore a variety of New Jersey marine and coastal habitats both in the classroom and in the field. The program featured an array of hands-on activities from the MARE curriculum and leadership activities delivered by a talented group of educators, scientists, storytellers and artists. This approach to content delivery benefited both veteran and newly-participating schools. This year's program included the introduction of technology and "movie maker software" which complements inquiry-based investigations of marine habitats.

Participants were given grade-level specific curriculum guides as well as trade books, tapes, DVDs, posters and additional classroom materials to complement the new habitat-specific lesson plans.

- **Lunch n' Learn Series**

In partnership with the Tuckerton Seaport, the JC NERR developed a suite of family and public educational programs focused on the research, cultural history and watershed of the Mullica River - Great Bay system. The goal of these cooperative programs is to inform the public about the research happening "in their own backyard" and to enable the public to experience the watershed and the estuary "first hand" by offering field-based educational programs. Offered once a month, these programs focus on "critters" in the estuary. Participants are encouraged to bring along their lunch and learn from the speakers, who are experts in their respective fields. Presentations last about an hour and include a question and answer session.

- October 6th, 2006 - Menhaden Fishing and Chanteys
- November 8th, 2006 - Return Osprey
- December 6th, 2006 - Striper Tracker - End of the Year Fishing Report
- January 17th, 2007 - Little Egg Harbor Bay Hard Clam Study
- February 21st, 2007 - The History of Clam Aquaculture in Tuckerton
- March 14th, 2007 - Ecology of Blue Crabs
- April 11th, 2007 - New Jersey's Pound Fishing and Gallery Tour

- **Swat and Paddle Kayak Race**

Cosponsored by the JC NERR, the Pinelands Watershed Alliance and the Great Bay Paddlers, a Swat 'N Paddle Kayak Race was held on August 25, 2007. Fourteen racers participated in the event. The race route took paddlers from First Bridge Marina through the marsh ecosystem, which makes up the Great Bay Blvd. Wildlife Management Area. Two racing divisions were offered: a recreational and a touring division. Proceeds from the race will be used to support environmental education programs in the Tuckerton/Little Egg Harbor area.

Jobos Bay National Estuarine Research Reserve

2007 Education Program Report

Sandra J. Lebrón- Education Coordinator (EC) – Slebron@jbnerr.org or sanjleb@gmail.com

Program Highlights

- **Special Activities**

During November 2006 we celebrated our 25th Anniversary of the designation of Jobos Bay National Estuarine Research Reserve as part of the NOAA-NERR System. This Activity counted with the presence of the Hon. Javier Vélez Arocho, Secretary of the DNER, Mrs. Donna Wieting OCRM Deputy Director and Ms. Nina Garfield NOAA-ERD NERR Program Project Specialist, representatives from State Agencies, employees and several guests. A total of 75 people attended the protocol activities. This activity was dedicated to Mrs. Nilda Peña, Environmental Educator of the Reserve for 15 years.

In December 2006 we celebrated the 25 years of designation of the Reserve with Aguirre's Community. The Reserve opened its doors to more than 100 people that shared educative activities such as the 30 foot tall World Inflatable Globe by G-Works Educational NGO, Trolley strolls through Aguirre's Historical Sugar Cane Old Town, exhibitions, videos, kid's activities, recycling activities, typical music, kiosks and crafts. We distribute souvenirs such key rings, t-shirts and allusive glasses to the 25th Anniversary to every participant and visitor.

With the purpose of creating conscience to the youth on the conservation of the estuary, the Jobos Bay National Estuarine Research Reserve held its third Summer Camp "Los Guardianes del Estuario Bahía de Jobos" from July 9 – 13 of 2007 at the facilities of the Visitors Center of Jobos Bay in Aguirre, Salinas. This Summer Camp had the participation of 25 students between the ages of 8-18 including voluntary students. For 5 days from 8:00 a.m. to 3:00 p.m. the students fulfilled activities such as educative ecosystems conferences about Jobos Bay Estuary, coral reefs and, bird watching. They had the opportunity to enjoy a boat trip to Cayos Caribe and Mar Negro, visit to Aguirre's Old Sugar Cane Mill trails, mangrove forest and Jagüeyes Forest interpretative trails, research activities and workshops about different sand classes and crafts. Once completed the workshop the students received a certificate of participation and educational materials.

During July 16-20, 2007 Jobos Bay held the First Community Summer Camp for Junior High and High School students from Municipalities of Salinas and Guayama. It was coordinated by the environmental community leaders and the Reserve's personnel. In this summer camp the students spent the night in the dormitories of the facilities of the Reserve and they had several conferences, workshops and field trips to the Reserve's trails and the watershed.

During The National Estuary Day we had an Open House at Jobos Bay's Reserve Visitors Center. We received several visitors, among them; the Boys Scout Troop 702 from the town of Cabo Rojo took an important role. These young boys had the opportunity to know about the Reserve through an educative ecosystems conference and a field trip to the Reserve's trails.

- **Workshops in Jobos Bay Reserve**

During March and June 2007 two teacher workshops focusing Marine Ecosystems were held in Jobos Bay. The Sea Grant Education Coordinator and Jobos Bay staff coordinated and offered field trips for the 25 teachers that participated in the two weekend's workshops. The teachers helped the education staff to improve the Jobos Bay educational guide adding some new and very interesting lessons. The education guide is under revision.

A workshop on Marine Ecosystems was held in Jobos Bay during the May 2007 for the USDA Extension Service (Sea and Land Alliance "Alianza Mar y Tierra"). The Sea Grant Education Coordinator and Jobos Bay staff coordinated and offered field trips for the 12 agronomists that participated in the workshop. A CD-ROM

entitle “Jobos: Un Estuario Especial” (“Jobos: A special estuary”) with educational material of the Reserve was created for this workshop.

- **K-12 Programs and Other Groups**

We received over 2,970 visitors which include K-12, college students and general public from 25 different municipalities of Puerto Rico, and 70 foreigners.

The information center of the Reserve received students on a weekly base looking for information about the natural resources and other topics for school projects and science fairs. Our research staff helped out with this process integrating the educational and research programs.

During 2007 the Reserve staff has participated in four environmental fairs in Industries, Government and Universities with an informational material display booth of Jobos Bay Reserve. Over 400 people were impacted in these activities.

Kachemak Bay National Estuarine Research Reserve

2007 Education Program Report

Terry Thompson, Education Coordinator – Terry_Thompson@fishgame.state.ak.us

Program Highlights

- Approximately 2,500 students from 12 communities and villages throughout Southcentral Alaska took advantage of KBNERR's K-12 programs this past year.
- Our Discovery Lab activities continue to draw large crowds of both local residents and visitors to Homer. These labs held 3 times per week in the summer and twice per month during the fall/winter/spring now draw visitors to the Alaska Islands and Ocean Visitor Center specifically to participate in the labs. During this time period KBNERR education staff provided 19 themed labs with almost 4,000 visitors participating in the hands-on activities.
- Outreach events for KBNERR led by the education staff included the 2-day Kenai River Festival held in Soldotna; Kachemak Bay Shorebird Festival; National Estuaries Day; Earth Day; Rachel Carson centennial event; Sea Otter Awareness Week; and lab activities for British Petroleum (BP) new hires.
- KBNERR education staff is actively involved in coordination of a regional, and soon to be statewide invasive species community monitoring program for the European green crab.
- KBNERR education staff is also actively involved in a plankton community monitoring program to assist the KBNERR research team as they work to answer community questions about the decline in subsistence species e.g. crab, shrimp, and clams; and to assist area oyster farmers as they try to predict settling events of barnacles and mussels.
- **Partner Projects**
KBNERR education staff were contracted to provide products for partner agencies and organizations over the past year which included:
 - **Municipality of Anchorage**
Salmon in the City: KBNERR provided logo design, marketing templates, design and fabrication oversight of table top displays, and 4 video Public Service Announcements (2000 DVD copies).
 - **Alaska Department of Fish and Game**
Non-indigenous species workgroup: Designed and provided fabrication oversight of a traveling display unit highlighting the threats to Alaska from invasive species.

Program Highlights

- **Visiting Class program September-December 2006**

230 Research vessel trips for 7,057 4th-12th students

- **Elementary student hands-on tours**

Served over 2,000 students with touch labs and creative dramatics programs

- **Visitors Center**

30,000+ visitors toured 7 marine aquaria, participated in afternoon movies and toured public research displays

- **Teacher workshops**

11 teacher workshops hosted 300 teachers

- **Birding for Kids**

Staff piloted three very successful programs for kids focusing on local coastal birds at three different birding sites.

- **ELDERHOSTEL**

15 program weeks focused on coastal ecology, maritime history and birds served 415 participants. Sites include New Orleans to Galveston, Galveston to Port Isabel, Port Aransas, Kingsville, Rockport, Brownsville and Mac Allen covering 375 miles of the Texas coast and 150 miles of the Rio Grande River.

- **Public Outreach**

Ma-NERR presentations at Texas Science Teachers conference; to all workshop and visiting class groups; evening public lecture series; Texas State Aquarium Oceanarium Day event;

- **Wetlands Education Center:** May -07 completed construction of 2.6 acre salt marsh and 1.5 acre sheltering dunes on-site at UTMSI. Architect working on final plans for educational infrastructure to include pathways, boardwalks, shaded overlooks, an amphitheatre, educational signage and floating education platforms. Plan to bid this by January and be completed in May 08.
- **Wetlands Education Center:** Hosted 100+ participants on August 29th for Volunteer Planting Day at the WEC. We planted 1,200+ feet of shoreline with a variety of high and low salt marsh plants and SAVs.

Outcome Summary

The main goal of the formal and informal outreach programs is to create an awareness and appreciation for the diversity and abundance of life in local coastal ecosystems and foster an understanding of mans impact on these systems. Our audiences include “K to Gray”, i.e. school children of all ages and adults of all ages.

Narragansett Bay National Estuarine Research Reserve

2007 Education Program Report

Kristin Van Wagner, Education Coordinator – Kristin@nbnerr.org

Program Highlights

- **Public Outreach and Communications**

Designed and developed a 2007 Rhode Island Tide Calendar highlighting research, education, monitoring, stewardship and CTP projects (500 copies distributed throughout RI). The Reserve's newsletters included articles about restoration science in Narragansett Bay and were supplemented by several email-Alerts to the Reserve's newly developed email list of over 650 people and growing. We have a new logo for NBNERR featuring a flounder, quahog and eelgrass. The EC also created a new website www.nbnerr.org with downloadable maps of the Reserve, scientific papers, volunteer opportunities, info about getting to the island, a calendar of events, and detailed contact information. There are many links on the site to partners' web sites, GRF opportunities, tick-borne disease info, on-going Reserve research, education, and stewardship projects.

- **Education Programs**

- Initiated small-group, 6 hour tours of the Reserve aimed to cultivate community ambassadors. Since last October 65 people have attended these programs and can share their knowledge of the Reserve.
- Approximately 144 homeschool students and 40 accompanying teachers and chaperones attended our educational programs on Prudence Island (limited island access excludes traditional K-12 visits).
- The Reserve participated in the Scituate High School "Ocean Science Awareness Night." Approximately 300 students and their families were in attendance.
- On April 30, 2007 NBNERR contributed to NOAA's Hurricane Awareness Event at Quonset Point, RI. Roughly 450 elementary school students and hundreds of members of the public attended.
- Education partner, Save The Bay, brought approximately 540 additional K-12 students to the Reserve by boat on school field experiences and summer camps.

- **Teacher Training**

Two events; Along with Save The Bay, the Reserve hosted ~20 teachers for a day on Prudence Island to study saltmarshes. In recognition of NED the Reserve also lead an after-school teacher training on estuarine habitats.

- **Public Event Programs**

- ~80 teachers attended a presentation by Bob Ballard at URI about Ocean Literacy this winter.
- Two oyster restoration programs with Roger Williams University brought 83 people to the Reserve.
- Presented at the Audubon Society of Rhode Island's "Raptor Weekend" with over 2000 participants.
- The Reserve displayed at the Rhode Island "BioBlitz" on June 2, 2007.
- The Reserve hosted two beach cleanups this year with 98 volunteers collecting debris.
- The Reserve hosted two seasonal Open Houses with 137 people in attendance.
- NBNERR also organized, hosted and gained several sponsors for the annual Prudence Island Fishing Tournament with a minimum of 140 people participating in the event and contest.

- **Exhibit Development**

Completed "Identification Station" and "Kids' Nook" exhibits in the Learning Center. Seasonal staff set up an "Estuary" exhibit with ID cards for estuary species in the tank. Also created roadside signage to interpret *Phragmites* treatment areas in the Reserve and developed a new traveling Reserve exhibit.

Program Outcome

NBNERR is laying the groundwork to advance its education and outreach programs in 2008. We hope to expand our teacher training, marine science camps, homeschool field experiences and organizational recognition.

Program Highlights

- **New Education Coordinator**

Jill Fegley was hired in June as the new Education Coordinator. Jill has a Ph.D. in Ecology and Environmental Science and comes to us from Maine Maritime Academy where she was an Associate Professor of Marine Biology. Jill has extensive experience communicating science-based information to a wide variety of audiences.

- **EstuaryLive**

A three-day EstuaryLive event was held in May 2007 with individuals from around the country participating via the internet. This event highlighted NOAA in the Carolinas as well as NOAA's 200th anniversary through different topics and presentations by experts from partnering programs.

- **Field Trips**

We had twenty-six school groups visit our Reserve since January to learn about estuarine ecology. In addition, this summer we held a total of forty public field trips to either the Rachel Carson Reserve or the Currituck Banks Reserve.

- **Community Outreach**

Outreach programs were conducted for a variety of community organizations including: pre-school groups, Boy Scouts, Boys and Girls Clubs, science clubs, church groups, and garden clubs.

- **Teacher Workshops**

Four Coastal Explorations teacher workshops were held this year with 74 educators participating. We also conducted three teacher workshops where we partnered with the NC Wildlife Resources Commission, the South East Center for Ocean Science Education Excellence, and the NC Teaching Fellows Program (88 participants).

- **Publications**

Education staff developed two coastal organism posters (oysters & horseshoe crabs) to support K-12 educational programs. In addition, a maritime forest activity booklet was developed for 5th through 7th grade students. The Reserve newsletter, "The Tidal Flat" was redesigned this fall and will be published biannually.

Outcomes Summary

The NCNERR education program focuses on hands-on science education. Over 860 school children have been given guided tours of our Reserve since January. In addition, over 5,500 individuals registered for our EstuaryLive program in May. Our summer public field trips have nearly doubled in not only the number offered, but also in the number of participants. We have had over 500 individuals participate in our summer programs at the Reserve. We also have an active outreach program where our staff provide programming for community organizations (351 participants). We are also involved in Teacher Professional Development and plan to expand this area in the future.

North Inlet-Winyah Bay National Estuarine Research Reserve

2007 Education Program Report

Beth Thomas, Education Coordinator – Beth@belle.baruch.sc.edu

Program Highlights

- **NIWB NERR Awarded Design & Construction Grant for New Education Center Exhibits**

NIWB NERR was awarded ~\$600,000 for the design and construction of new exhibits for the expanded education facilities at the front entrance of Hobcaw Barony (host to the USC Baruch Field Laboratory/NI-WB Reserve headquarters). The exhibit design firm that was selected is Split Rock Studios, based in Minneapolis, MN. Overall project completion is anticipated for Fall 2009.

- **Education Specialist Search Complete**

Lindsay Thomas joined the staff as Education Specialist in mid-August and has been actively learning about the NERRS at the local and national level and has participated in most of the research and monitoring activities conducted by NERR staff. She has also created new outreach materials for the Winyah Master Naturalist course, the 'NOAA in the Carolinas' EstuaryLive broadcast, and several new education programs.

- **'NOAA in the Carolinas' EstuaryLive event from SC**

A live internet broadcast from Charleston, SC, will be hosted at Ft. Johnson on September 26 & 27th. In partnership with NOAA's NWS, NC NERR, NI-WB NERR, ACE Basin NERR, Hollings Marine Lab, and others. Sessions will include topics on estuaries, watersheds, tides, creature features on shrimp, horseshoe crabs, turtles & alligators, NERR Research & SWMP, rip currents, hurricanes and more.

- **Community Education Programs**

New research-based education programs for 2007 include: "Seaside Plants" - a program incorporating research and monitoring of marsh vegetation, sea level rise, and invasive species along with more traditional plant identification; "Zooplankton of the Atlantic & Gulf Coasts", featuring Dr. Dennis Allen (co-author of his zooplankton field guide of the same name); and "World Water Monitoring Day" incorporating the SWMP components and protocols, as well as instruction in volunteer water quality monitoring techniques and opportunities.

- **K-12 School Outreach & Field Trips**

The Reserve offers customized field trips for school groups free of charge throughout the school year. Teachers have the opportunity to request a customized program based on their needs. These can be conducted in the classroom and/or at the NERR, or at the location of their choice. The classroom presentations include information about the NERRS, SWMP, and the CDMO. Recent program requests have included ecosystems, weather, estuaries, and tides.

Outcomes Summary

With a new education staff member and future building and exhibit expansions, the NI-WB NERR will continue to offer quality programming on estuaries and share the results of monitoring and research efforts to even more participants. This Fall's 'NOAA in the Carolinas' EstuaryLive broadcast will also expand this outreach to classrooms around the nation. Community education program attendance: 175 participants; K-12 Education programs: 738 students.

Old Woman Creek National Estuarine Research Reserve

2007 Education Program Report

Phoebe Van Zoest, Education Specialist – Phoebe.Vanzoest@dnr.state.oh.us

Community Education (68 community education programs, 1941 participants)

- **Estuary Explorations:** Expanded in 2007
 - Natural history walks and hand-on field experiences: plant identification, beach processes
 - Guided canoe tours of estuary. Ecology and reserve research highlighted throughout
 - Window into research: Scientists provided interactive talks on endangered species, habitat suitability studies, and climate change
 - Stewardship opportunities: invasive species management, beach clean ups
 - *Estuary Perspectives*: Nature sketch class led by local artist, popular monthly program now in second year culminated in art show at the Reserve visitor center
 - Program Calendar mailed to watershed residents and reserve constituents, distributed at sites along coast. Events posted on coastal, state and national web calendars
 - *National Estuaries Day 2007* : Special education stations and guided tours
 - 2008 Planning - *Estuary Explorations: 4 Seasons Around the Estuary*

- **Firelands Coastal Tributaries Watershed Project**

Education staff serves on technical sub-committees for this effort to develop a community based plan to address non point source pollution in the Old Woman Creek watershed, collaborates with local organizations on watershed education and outreach

- **K-12 and Professional Teacher Development Highlights**

- Distance Learning: Several programs reached students throughout Ohio
- K-12: Three groups of high school students (previously an underserved audience) participated in overnight programs involving seining, sampling, and laboratory work. Five more scheduled for 07-08
- Professional Teacher Development: *COSEE-Great Lakes Teachable Moment* - workshop focused on research investigating degradation of organic contaminants in estuary sediment and *Project WILD*, *Project Aquatic WILD*, *Project WET*, *Science and Civics*

- **Post-secondary education**

Several programs on Lake Erie coastal wetland ecology using Reserve research and monitoring data for college courses in ecology, biology, and botany

- **Cooperative Projects**

- Erie County Nature and Science Program Guide: Publication profiling organizations offering environmental education
- Nature Network Steering Committee: Planning process to create coalition of organizations to address shared concerns such as volunteer/member recruitment and fundraising
- Lake Erie Wing Watch: Member, participating in re-organization to focus on promotion of year round birding rather than single large scale conference event as in recent years

- **Administration**

- Visitor panel research, exhibit conceptual plan complete. All staff, core reserve partners participated
- Pending full launch of new agency website, reserve staff will manage website content. Site-specific online program calendar soon to be launched
- Summer environmental education intern developed watershed awareness and education display for use in libraries and other locations throughout Old Woman Creek watershed and participated in development of display for visitor center foyer

Padilla Bay National Estuarine Research Reserve

2007 Education Program Report

Glen Alexander, Education Coordinator – Alex@padillabay.gov

Program Highlights

- **Research Reports Made Available in PDF**

Over the years our Research Program has published over 60 research reports and reprints of projects in Padilla Bay. Until now, these were available only in hard copy by request to the Research Coordinator. Over two years ago we decided to make most of these available in PDF on our web page. We took hard copies of these documents to a contractor to be scanned page by page and transferred to PDF. Then we created a web page for each document with Bibliographic Citation, Abstract and a link to the PDF. This took much more time than we ever guessed but we now have over 50 documents available. Please visit:

<http://padillabay.gov/researchreports.asp>

- **Lesson Plans Developed for Upper Elementary to Address New State Standards**

You might remember that last year I made a presentation at the Fall Meeting about our Curriculum Development Project. I received a grant from a private foundation for \$14,000. This paid for some staff time, workshop expenses and teacher stipends. We paid 5 teachers to live a Padilla Bay for two weeks in the summer and study estuary science. These teachers then created lessons for their students in exchange for half of their stipend. The lessons had to be designed to teach specific skills outlined in the Washington State Grade Level Expectations and tested in the Washington Assessment of Student Learning. To get the other half they had to do something to tell other teachers about the new lessons. They could organize a teacher training, write a journal article or make a presentation at a conference. The lessons the teachers created needed a lot of input from Padilla Bay educators to measure up to our high standards, then we made a web page for each lesson. Wow, what a lot of work! These are now available on the web in HTML and PDF:

<http://padillabay.gov/lessons>

Outcome Summary

The results of these projects are completely unknown. We have not yet measured how these resources are being used, by whom or for what results.

Rookery Bay National Estuarine Research Reserve

2007 Education Program Report

Randy McCormick, Education Coordinator – Randy.Mccormick@dep.state.fl.us

Formal Education Programs

- **Fourth grade Estuary Explorers Program**

These field trip programs are a collaborative effort with our county school system. Estuary Explorers requires teachers to participate in a training session before their class will be allowed to participate. Pre- and post-trip activities in the classroom are an integral part of this program.

- **Marine and Environmental Science Field Trips for High Schools, Colleges and Universities**

These boat-based field trip programs may include activities such as water quality analysis, trawling, oyster reef explorations, mangrove studies and barrier island ecology.

- **Coastal Environment Institute for Teachers (CEIT – *See It!*)**

This was a weeklong teacher training institute (our TOTE component) for middle and high school science teachers held in August. Teachers were given lectures, field work, lab projects and hands-on classroom activities.

Non-formal Education Programs

- **Boat based field trips**

These trips are provided to a wide variety of community groups, lifelong learning programs, partner agency personnel, volunteers, etc.

- **Florida Master Naturalist Program**

We conduct these 6 day courses as a part of this adult education program administered through the University of Florida.

- **Community Education**

A selection of public programs (typically PowerPoint followed by discussion) are provided to various community groups. Attendance at presentations has ranged from 10 to over 100.

- **Summer Junior Naturalist Program**

This was a weeklong day camp program for kids in grades 3-5 that involved various nature-based activities outdoors as well as inside our Environmental Learning Center.

- **Amazing Adventures Guest Speaker Series**

This presentation series covers a wide variety of natural history topics. They take place monthly, in the evenings, from November through April. They are open to the public.

- **Daily Coastal Connections Programs**

These are 1 hour presentations given twice daily to visitors to the Environmental Learning Center. Topics include sea turtles, manatees, waterbirds, native plants, etc.

Activities and Events

- **Art Gallery Exhibitions**

Rookery Bay, in partnership with our local Arts Council, presents four art exhibitions per year. Each juried exhibit includes opening receptions for anywhere from 50-100 people.

- **International Coastal Cleanup**

Rookery Bay is a local sponsor of this international event. Volunteers come together to clean up trash and marine debris in various parts of the Reserve and in adjacent coastal waters.

- **National Estuaries Day**

A variety of hands-on activities, guided walks, kid's activities, environmental films, a touch tank, lab tours and interpretive programs are offered to the public. Admission to the Environmental Learning Center is free on this day.

- **Southwest Florida Birding & Wildlife Festival**

Created and hosted by Rookery Bay, this event includes guided field trips, speaker presentations, films, and various family fun activities. The festival's mission is to stimulate people to appreciate, and motivate them to preserve, the rich wildlife and wildlife habitats of southwest Florida.

- **Southwest Florida History and Archeology Festival**

This event highlights the cultural heritage of our region and acknowledges the human influence on this landscape over the last 2000 years.

- **Dive Into Oceans**

Over a three day period of time this event offered an opportunity for middle school students, as well as the general public, to learn about oceans and the coastal environment. A 20,000 gallon pool is set up by the Dive Equipment Manufacturers Association and students were given the opportunity to try scuba equipment in a safe and structured environment.

Other education team activities include recruitment and training of volunteers, production of marketing materials, media relations, creation of an audio tour program, participation in parades, etc., etc., etc.

San Francisco Bay National Estuarine Research Reserve

2007 Education Program Report

Sarah Davies, Education Coordinator – Daviess@sfsu.edu

Program Highlights

- **Coastal Ecology and Oceanography Day, November 2006 and April 2007**

Workshops during which scientists shared results from recent research with high school science teachers.

Between talks, the EC introduced standards-based activities that complemented the research that was presented.

We also took the teachers on a mini-research cruise on the bay! Funding was provided by a grant from NOAA's Bay Watershed Education Training program, B-WET.

- **Rush Ranch Open House, April, 2007**

Reserve staff participated in the annual open house at one of the components of the reserve, Rush Ranch, which is a working ranch with rich human history. From horse-drawn wagon rides along the marsh to old fashioned square dancing, this day is a hoot!

- **Marin County Fair, July 2007**

This year, the Marin County Fair was themed 'Aquatic Adventures' and was located only a few miles from one of our reserve sites, China Camp. The EC and colleagues from our state agency set up and staffed an exhibit with a video microscope showing live plankton, lots of cool natural items collect at the Reserve, and interesting research equipment. Over the five days of the Fair, we talked to over 1,000 people about wetlands!

- **Celebration of Partnerships, August 2007**

To celebrate the opening of our new Administrative Headquarters, we worked with the Romberg Tiburon Center (with whom we are co-located) to throw a big party. The event was fun and educational: the EC created informational posters for each of the 12 labs explaining their research and many of the scientists opened their labs for tours.

- **On-Going Interpretive Exhibit Development**

With funding from a NOAA Construction grant, the EC is overseeing the design and installation of exhibits at both reserve sites and a local aquarium in San Francisco. The exhibits will be thematically and visually linked across the sites, and will teach visitors about the importance of wetlands and engage them with research happening within the estuary.

Outcome Summary

This year we continued to focus on educating the public about the importance of wetlands and estuarine research through the development of interpretive exhibits, authoring articles about estuarine research for other organizations' newsletters, and tabling at environmental events. The EC also continued to lead the Estuaries 101 work group.

Program Highlights

- **Teacher Training Workshops**

Approximately 150 teachers have participated in SINERR led and sponsored programs since fall 2006. Workshops include: SECOSEE Ocean Awareness Day, Marine Mammals, Shorebird Conservation, Green Eggs & Sand, Sea Turtles, (5) Coastal Ecology programs.

- **Special Programs**

Fulbright Scholarship Program, public Beach Ecology programs, staff training programs for nearby coastal Cooperative Extension (4-h) programs.

- **Artist in Residence**

Jeannine Cook and Marjette Schille have spent a series of weekends on Sapelo Island this year creating paintings, sketches, and silverpoint drawings that feature the Reserve. The collection will be featured at several art museums in Atlanta, Macon, and Columbus in 2008.

- **Stewardship/Education Projects**

Teamed up with Aimee Gaddis (SC) to develop interpretive posters for new ferry boat. Worked with 4th grade classes from St. Marys Elementary School on GIS and geocaching project. Students worked with SINERR staff to select cache site and will develop a description of the island to post on-line.

- **Education programs**

- Acquired new tour bus (25 passengers) and local school system donated a school bus (40 passengers) for education and tour programs.
- Newspaper and local television coverage of summer programs for the public.
- 30th Anniversary Commemorative Booklet
- SINERR representation on advisory boards of GAME, Georgia Conservancy Education.
- New interpretive signage at main office and education building.

- **Volunteers**

FOS members have helped with a wide variety of projects this year including leading history tours of the Reynolds Mansion in December, native plant landscaping, assisting with off-site events like Coastfest and Gray's Reef NMS Ocean Film Festival, constructing and painting frames for new interpretive signs, creating an inventory of the book collection at the Mansion library, and assisting with school science programs.

Looking ahead to 2008...

- New exhibits at Sapelo Island Visitor Center.
- Partner with GRNMS to develop new interpretive signage at public beach access points.
- NMEA comes to Savannah!

We continue to work with our established audiences (public, schools, teachers) and continue to find means to reach mainland audiences. A few years ago, we began an effort to develop interpretive materials (printed, website) and programming (traveling exhibits, art shows, lecture series) that feature the island and the Reserve but are aimed at the coastal community and statewide audiences. Further, we have ramped up our communications efforts and have developed a rapport with area media and newspaper outlets.

South Slough National Estuarine Research Reserve

2007 Education Program Report

Tom Gaskill, Education Program Coordinator – Tom.Gaskill@state.or.us

- **EstuaryLive program**

South Slough participated as a host site for EstuaryLive in 2006. The Oregon segment had a confirmed audience of at least 254 schools registered and 15,360 students watching. The South Slough broadcast focused on comparing and contrasting Coos Bay and Tillamook Bay, two estuaries separated by over 150 miles of coastline. Themes for the day included an historic perspective on Oregon coast culture, the stories of salmon, crab, and eelgrass, and finally stewardship as a way to personally connect to the estuary. Partners in the production included the Tillamook Bay NEP, the Coquille Tribe, the Oregon Coast Aquarium, a commercial fisherman, researchers from the Oregon Institute of Marine Biology, and local schools.

- **Formal education programs**

South Slough hosted 99 formal education programs this year for 3,579 participants. Formal education programs are defined as structured educational activities with defined learning objectives and a formalized relationship to an educational entity. Program lengths vary from 1 hour to a full day and audiences include pre-school to adult participants including teachers and parent volunteers. 341 contact hours were recorded and 149 hours of preparation time were also documented. Curricula included site-based materials from the Estuary Study Program, the new TIDES curriculum, the MARE curriculum, and Project Learning Tree activities.

- **Interpretive programs**

Interpretive programs are defined as informal, structured educational activities which may have defined learning objectives, for individuals or groups that are not a formalized educational entity. Program design forms are developed for each activity and evaluations are used with some of the activities. This year, 123 programs were offered for 2,240 participants. 293 contact hours and 124 prep hours were recorded for this period. Activities included guided walks and paddles, workshops and classes, lectures, and special events.

- **New TIDES (Teaching Investigation and Discovery through Estuary Study) curriculum**

The final 1st draft of the new TIDES curriculum is completed. Elements have been field tested with schools over the past several years and will have significant consequences for the way that South Slough NERR's education program works with classes and teachers. The curriculum consists of 14 distinct units (classroom-based and field and lab-based activities) to assist middle school (grades 6-8) students and teachers in the investigation and discovery of estuaries and their connection to watersheds and the ocean. Components consist of an *Activity Guide*, *Explorer kits*, *Estuary study backpacks*, and a variety of background resources.

- **“Explore Your Estuary” exhibits**

New South Slough exhibits have been completed and final work on contracts with Interpretive Exhibits Inc. (fabricators) and One + Two Inc. (designers) is now concluded. The exhibits are designed to inspire, educate, and encourage exploration while instilling a deep sense of interest in the activities of the Reserve. Initial feedback from visitors, staff, and volunteers has been very positive. The theme of the exhibits “Explore Your Estuary” will be the basis for a new effort to engage visitors and students as investigators sharing their findings as they use activities and scientific equipment to collect data, make discoveries, and contribute their information to the Reserve.

Outcomes Summary

EstuaryLive program – provided 65 minute interactive educational program for 254 classes and 15, 640 viewers. Formal and interpretive education programs – provided 222 programs for 5,819 participants with 633 contact hours. TIDES curriculum – developed and began implementation of new 14 activity curriculum. “Explore Your Estuary” exhibits – completed development and installation of popular new interpretive exhibits

Tijuana River National Estuarine Research Reserve

2007 Education Program Report

Anne Marie Tipton, Education Coordinator – Amtipton@parks.ca.gov

Program Highlights

- San Diego Coast District had a booth at Balboa Park's Earth Fair on April 22nd with support from the State Park Foundation. The booth was staffed by our education staff and docents. Our staff developed the engaging activities. We did a climate change toss-a-cross game that was very popular. We had more than 1200 people go to the booth.
- We had three Habitat Heroes school programs in April from Bayside Elementary. They participate in the Tijuana Estuary Explorers program.
- We celebrated International Migratory Bird Day on May 12th this year along with Endangered Species Day thanks to extra support from SWIA. The focus was on the California Least Tern who "fills the bill" (no pun intended ☺) in both categories. Robert Patton gave a talk on the Least Tern then he stayed to band children with real goose bands. Other activities included a bird walk and making a nesting box and a mobile.
- Education Coordinator Tipton was elected the President of the San Diego Museum Council. Her term starts in July.
- We did school programs with Mann Middle school and Coast Alive! grant recipient Courtney Browne. Courtney's grant paid for transportation. We did plant sampling, the MARSH plant identification activity, and the visitor center rotation. Some of the student did more work with Debby Good on a Saturday.
- One of our High School Teacher Training (HSTT) graduates, Colleen Gavan - from High Teach High International, asked for us to take her students on a tour of the border. Our education staff and Stewardship Coordinator Chris Peregrin led the tour. The tour was part of a larger project with CTP and the Volunteer program.
- Education Coordinator Tipton did a career presentation to HSTT graduate Michelle Mardahl's biology class in early June. She teaches at Bonita Vista High. The students seemed pretty interested.
- We trained teachers from Sweetwater District for their new summer school program. We had three field trips and one of the teachers came back to have her students do the whole restoration cycle from invasives removal, plant propagation, to planting. EC Tipton presented at the assembly with the parents.
- The Junior Ranger programs averaged 12 students this summer thanks in part to an article in the Union-Tribune. We provided programs for several scout groups and the local boys and girls club.
- We spent most of time planning for the 25th birthday and helping with the move to the new facilities.

Community Education

- **CapeKeepers Program**

In collaboration with several partners, the Reserve conducted classes on wastewater treatment in three locations on the Cape. These classes also served to train speakers for community groups, an ongoing project.

- **NERRS Social Science GRFs**

One of the NERRS Social Science GRFs was awarded to Lisa Greber who will be conducting her research on climate change and religion in the Waquoit Bay watershed.

- **Cape and Islands Renewable Energy Collaborative**

Reserve staff continue to collaborate with the Cape and Islands Renewable Energy Collaborative in both education (organizing tours of green buildings, speakers on creative solutions) and community policy initiatives (hosting a retreat to create a Cape and Islands Regional Energy Action Plan) to encourage people to reduce their green house gas and nutrient contributions to the atmosphere.

Teacher Training

In addition to courses on weather and climate and an introductory course on coastal systems, we offered two new courses for graduate credit for teachers this year.

- **The School of Herring**

A course on anadromous fish which included studies of the impacts of water quality on fish species. A local foundation funded the purchase of temperature data loggers so teachers could monitor local stream temperatures and correlate them with herring and alewife migrations. The teachers learned how SWMP data can be used to monitor temperatures in estuaries where anadromous fish appear before moving into streams.

- **Climate Science for Teachers**

A course which included presentations by scientists studying climate, as well as lesson plans and field studies focused on coastal impacts of climate change.

Presentations about climate education and about using coastal data with students were made at regional, state, and national science teachers' conventions.

K-12 Programs:

Approximately 10% of students took pre and post tests as part of their programs studying estuaries. Programs for students incorporated more technology this year, including using temperature data loggers and graphing beach profile data compiled during several field sessions.

WBNERR staff partnered with local groups to organize a *middle school energy fair* which included activities on impacts of energy use on local environments and many activities on energy conservation and renewable energy.

Interpretive Programs

Reserve staff worked with DCR to offer *coastal interpretive training* to seasonal coastal interpreters and supervisors at other state and urban park sites and to expand programming to other state parks to inform people about estuarine processes and the Reserve's research (*Discover Your Coast* program).

With the help and funding of many partners and volunteers, an interpretive kiosk on the natural and cultural history of the Quashnet River was completed as well as trail signs for the South Cape Beach area.

Summer interpretive walks continued to stress resource management themes including Native Plantings: Let Cape Cod's Beautiful Coastal Plants Inspire You (ecological landscaping), and Rising Tide: A Look at How Climate Change May Affect the Coast.

Weeks Bay National Estuarine Research Reserve

2007 Education Program Report

Margaret Sedlecky, Education Coordinator – weeksbay@gulftel.com

Program Highlights

- **Baldwin County Grasses in Classes Program**

The Education Coordinator has been writing grants to fund the Baldwin County Grasses in Classes Program and initiated and coordinate the BCGIC Program for our county school system. The BCGIC program coordinates and sustains a network of teachers, students, restoration specialists, and other community members to plan and implement restoration of coastal environments in Baldwin County, Alabama. Presently the BCGIC Program has native plant nurseries at six high schools in the County. Each of the six high schools are growing native plants for either submerged aquatic vegetation (*Vallisneria americana*), wetland habitat (both fresh and brackish water species) and dune habitats. Since starting the BCGIC Program in January of 2005 students, teachers and community volunteers have logged over 1,500 hours planting over 18,000 plants in restoration projects.

- **Hands-on Environmental Programs**

In addition to the BCGIC Program approximately 3,500 school students visit our Reserve each school year for hands-on environmental programs. Volunteers assist with these programs. The EC also put together several “theme boxes” that contain resources (puppets, posters, books, CD’s etc...) on topics such as Birds and Mammals; Spiders and Insects, Bats, Marine Mammals, Sea Life, Wetlands, Forestry and Sea Turtles. These boxes are loaned to Baldwin County Public School teachers to use in their classroom for a period of two weeks. The boxes are sent to the teachers through our inter-school courier service.

- **Estuaries 101 Curriculum**

Working to use some funding the Reserve received to get the 6th – 8th grade Estuaries 101 curriculum developed through TERC. Weeks Bay is planning to implement every phase of KEEP at our Reserve within the next two years. We plan to do a “direct to the internet” E-Live broadcast in May 2009 and to conduct a local (coastal Alabama) market analysis, training needs assessment and evaluation of our K-12 programs. We plan to conduct TOTE workshop(s) to train teachers to use the new Estuaries 101 curriculum as soon as the 9th -12th grade curriculum is completed and again after the 6-8th curriculum is done. The TOTE workshop(s) will take place in the summers when teachers are out of school.

Wells National Estuarine Research Reserve

2007 Education Program Report

Sarah Jolly, Education Coordinator – sjolly@wellsnerr.org

- **Docent Program**

Our docent program continues to be a great boon to the education department. These 55 volunteer naturalists are trained seasonally to lead popular K-12 educational programs and summer interpretive tours for a total of 460 training hours.

- **K-12 Programs**

Our school programs included Exploring Estuaries (2-5th grade), Microscopic Drifters, and Water Quality Monitoring Field Studies (both 6-12th grade). These programs reached 1080 students, resulting in 4082 contact hours. Education staff also designed and led several custom programs for school and community groups, as well as providing support to self-guided groups. Thirty-three groups came for 2250 contact hours. We also provided 12 half-day summer camp sessions for kids 6-9 and 4 weeks of camp for kids 9-13, resulting in 1700 contact hours.

- **Public Programs**

We offered daily interpretive walks through the summer on seven topics; summer weekly bird banding demonstrations; 5 summer evening lectures; 8 off season midday lectures; 21 special themed programs; and 5 custom programs for groups, all resulting 1687 contact hours.

- **Volunteer Monitoring**

We trained and supervised community volunteers and three local schools to conduct bi-weekly water quality tests at 18 sites in two local watersheds, March through December (1339 contact hours). Education staff also supported the water quality monitoring programs of the Ogunquit and Alfred Conservation Commissions.

- **Interpretive Exhibits and Trails**

We sought and received grants from three organizations, including NOAA, to create and install seven new interpretive signs along our most popular trail system. This project should be completed in April, 2008.

- **Coastal Resource Library**

Our services expanded to include Interlibrary Loan, state-wide electronic circulation system; we also continued to expand and catalog special collections.

- **Punkinfiddle: A National Estuaries Day Celebration, September 2006**

We piloted the merging of two events into one in honor of National Estuaries Day. Punkinfiddle is a community-raising harvest festival celebrating the unique historical character of the Wells Reserve site at a salt marsh farm. The successful hybrid event attracted over 2,500 attendees in 2006. Staff and volunteers hosted a wide variety of salt marsh educational activities and children's crafts. This joint effort will continue 2007.

- **Special Events**

Included the **8th Annual Bird Seed Sale** in November with revenues significantly up from previous years; **Winter Family Fun Day** in February, which was our most well-attended winter celebration to date; and our **Earth Day Celebration** in April which focused on coastal fish.

Our school program evaluations over the last year have shown that we have been successful in increasing students' understanding of estuaries, and raising their awareness of their place in creating a healthy environment. We continue to work on improving our school programs to meet local curriculum needs and Maine state learning standards, as well as raise the profile of our educational offerings to schools, groups, and the public. We are working with our non-profit partner, Laudholm Trust, on the formal look of our brochures and publications so as to present a more clearly defined identity and mission to our various audiences.

Estuarine Reserves Division

2007 National Education Report

Atziri Ibanez, National Education Coordinator – Atziri.Ibanez@noaa.gov

Amy Clark, Program Specialist – Amy.Clark@noaa.gov

The 2007 federal fiscal year was dedicated to development of the 9th – 12th grade portion of the Estuaries 101 curriculum; overhauling the estuaries.gov website; raising visibility of the NERRS Education program within NOAA; and furthering partnerships with other NOAA programs. The following highlights illustrate specific major accomplishments of the Estuarine Reserves Division during the 2007 fiscal year.

ERD Leverages Partnerships and Funds for the Implementation of KEEP

- ERD received \$60,000 to hire a web developer to assist in developing the SWMP web interface, an educationally-focused user interface for querying and manipulating SWMP data.
- Formalized a partnership with the National Fisheries Office to develop a series of fact sheets on threatened, endangered and species of concern that live in our estuaries.
- ERD formed the Technical Advisory Committee (conformed by various representatives from different NOAA line offices across OCRM and NOAA) to support product development by NERRS.

Outcome: By networking with these different groups, representatives from these offices are now engaged and have started assisting ERD in development of different elements that will support the implementation of Estuaries 101 and be highlighted in the new estuaries.gov sites.

ERD provided technical advice in the development of two reports.

- K-12 National Needs Assessment – In the summer of 2007, more than one thousand classroom teachers and informal science educators shared their thoughts and opinions on teaching estuarine related topics via an online needs assessment. This report is now completed and ready for publication!
- Estuaries standards report - Completed and ready for publication!

Outcome: Production of both these reports has raised interest within the marine education community and the NOAA community. The Assessment sets an example as to the importance of following best practices and actually doing an audience analysis, and the Standards Report makes an important call for the need to include estuaries in the Ocean Literacy and Principles Document, as well as other key K-12 educational documents.

Estuaries.gov Overhaul Kicks-off. Estuaries.gov, the website which traditionally celebrated National Estuaries Day and housed EstuaryLive, is being revised and improved. The new and expanded estuaries.gov (to be launched in the spring of 2008) will be a comprehensive website for NERR educational resources for teachers and students, including the new Estuaries 101 curriculum, a new SWMP-Web Interface, as well as future EstuaryLive programs and video clips. In 2007, ERD and the NERRS Education Website Workgroup designed the look of the new estuaries.gov, completed the site map, and began drafting the text for the new site.

NOAA Ocean Data Education (NODE) Project – *El Niño Module Completed!* The NODE Project – a collaboration between the National Marine Sanctuary Program, the National Estuarine Research Reserve System, and the National Oceanographic Data Center – is developing curriculum for grades 5-8 (in the form of three modules) designed to help teachers and students use real scientific data to explore dynamic Earth processes and understand the impact of environmental events on a regional or global scale. ERD has actively participated in the design and development of the modules. *Outcome:* This project has raised the interest from other NOAA line offices who are interested in developing supplementary modules.

ERD promotes use of NERRS education products among key target audiences.

- The NERRS Education Bulletin now reaches 1305 teachers! The bulletin has become an increasingly effective vehicle to inform and engage teachers, and communicate information on the education programs offered by the NERRS.
- Collaborated with Sea Grant, through “The Bridge”, to help expand the NOAA Collection of Educational Materials for K-12 with a focus on estuaries.
- Provided educational materials to be included in an educational CD that would be part of NOAA’s 200th Celebration.
- NERRS and the National Science Teachers Association (NSTA) have completed an Estuaries SciGuide, a new web-based “science toolbox” for teachers and other educators. The SciGuide was showcased at NSTA’s National Conference in St. Louis, Mo., in March.
- ERD staff helped NOAA to host teachers from around the country as part of the Maury Project, an annual two-week summer workshop for science teachers, sponsored by the American Meteorological Society.

Outcome: Through these various efforts, teachers count with valuable classroom resources for integrating estuarine materials into their teaching. The NERRS now counts with NSTA as a solid partner who, for example, supported NERRA when it submitted the Literacy proposal.

ERD Involved in NOAA Office of Education Initiatives

Throughout the year, ERD has worked closely with the NOAA Office of Education on a variety of education initiatives. For example, ERD has provided feedback and suggestions, via various meetings and workshops, in the drafting of a NOAA Education Vision and Action Plan Document. In addition, ERD has assisted in the development of a NOAA workgroup which will focus its attention on adult audiences, such as CTP. In addition, ERD staff attended a NOAA/AAAS Workshop meant to draft “Climate Literacy Principles and Concepts”.

Outcome: Increased involvement of Education Coordinators in discrete NOAA education wide activities. Increased visibility for NERRS, the work done by Education Coordinators, and the NERRS ability to tackle other audiences outside of K-12.